



SPECIAL FEATURE: FIREARMS AND VIOLENCE

Science and Politics, or On the Irony of the Term *Political Science*

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This edition of the *Journal* contains a series of articles that focus on firearm-related death and injury. They are part of an ongoing effort by the New York Academy of Medicine to increase awareness of, and action on, this issue within the medical community. As part of that effort, the Academy sponsors Doctors Against Handgun Injury (DAHI), an organization funded by the Joyce Foundation and consisting of 12 medical and clinical societies with members who include approximately 600,000 physicians. The overarching goal of DAHI is to reduce firearm deaths and injuries by adding a public health and clinical perspective to the development and evaluation of policies and programs designed to reduce firearm risks. This perspective is “based on science and rooted in established principles of epidemiology and public health practice.”¹

Both as a way of exploring the practical impact of a public health and clinical perspective and as an introduction to these articles, it might be profitable to consider the interplay among science, politics, and policy within the American system of government.

Most people would accept as axiomatic the proposition that, when scientific evidence is clear and compelling, public policy should be based on it. But, like most self-evident claims, that value statement is overly simplistic and, as a result, is honored more rhetorically than behaviorally. Policymakers, while interested in scientific results and studies, are not always guided by their conclusions. Indeed, our national experience with science, when treated as an absolute determinant of policy, has often been less than satisfying. The Endangered Species Act, when literally interpreted, produced the “snail darter disaster”—a situation in which a species, for which salvation made cosmic sense, was turned into a joke and then a significant loophole in the law.* The fact that scientific findings do not control public policy ought not come as a shock. Policy decisions, after all, require a balancing of competing interests: at a minimum, economic, social, and political factors come into play and need to be harmonized. Yet, when science identifies a problem, its para-

*The snail darter, an obscure but endangered species, was at the center of a debate that delayed construction of a dam in Tennessee. It was not a unique dispute: in the 1990s, efforts to preserve the spotted owl by restricting logging in old-growth forests sparked controversy. And, in 2001, a similar situation took place as efforts to protect the suckerfish diverted scarce water resources from agricultural and commercial fishing interests. While few dispute the fact that the Endangered Species Act has contributed to, and reflects the importance of, biodiversity, conflict about the supremacy it places on species survival has led to repeated efforts either to reform or to destroy the program, depending on one's point of view.

digm rarely allows it to balance the other factors that go into creating a solution. No one doubts the value of government-funded research into efforts to discover details about the early universe; many, however, question if the resources required represent the best use of our national assets.

Beyond that, scientific evidence on social questions is often less than “clear and compelling.” There are always competing interpretations of data. Witness, for example, research funded and promoted by the tobacco industry that allowed some to deny the relationship between tobacco and cancer for decades. Or, on a more reasonable but also less-than-convincing level, consider the ongoing debate about global warming: some industrial interests deny the conclusions that most scientists draw from the available data. These cases illustrate the limitations and the potential impact of science in policy formulation. Those whose interests might be injured usually deny that a scientific consensus has developed about their contribution to the problem; indeed, they often spend millions of dollars in an effort to give legitimacy to alternative “scientific” conclusions. They do so not because such a consensus would close their businesses—consider the continuing profitability of some segments of the tobacco industry—but because it could lead to “undesirable” regulation and restrictions on their behavior.*

We are at approximately the same point of contention in regard to firearms. Specific causal links have not yet been established in every area, but relationships are clear. Some phenomena remain unexplained by existing theories, but promising possibilities seem to be emerging. Overall, research demonstrates a relationship between access to firearms and increased levels of morbidity and mortality through the tripartite mechanisms of suicide, homicide, and unintentional injury. (See, for example, the excellent article by Miller et al.,² as well as the piece by Galea et al.,³ in this issue. In addition to generating significant findings, they illustrate the kind of sophisticated and detailed research now being done in the field.)

Yet, despite this growing consensus, doubt is still possible, and debate is lively. Data, though questionable, allow some to argue that defensive gun use more than offsets identified risks of gun ownership. Methodological criticisms continue to flourish even if they are unintelligible to the lay reader.^{4–6} Ground once defended “to the death” is given grudgingly as some interventions demonstrate their value. But new lines in the sand are drawn, and disputes continue . . . as does death.

Still, the tipping point, the point at which the data become clear and compelling, is approaching. But, if research is restricted to the database now available, like Zeno’s paradox, the tipping point may come always closer, but never quite be reached. That is why there is a critical need for more detailed data about the problem of firearm-related injury.

The data now available exist only on a gross level. We know how many people die as a result of firearm incidents. We know what state they lived in. We know if they were involved in homicides, suicides, or unintentional incidents. The details

*For a more detailed illustration of this tendency, consider the debate in Congress on the Clinton era “ergonomics” regulations. When Congress considered a resolution to reject the regulations, they dismissed a multiyear study by the National Academy of Science to review the science behind the regulations without ever analyzing the study. See the *Congressional Record* of March 6, 2001 (S1831–S1888) for the Senate debate on this issue, and see March 8, 2001, for a record of deliberations in the House of Representatives (H684–H708).

that would allow us to understand the problem in depth, to resolve disputes about issues like defensive gun use, or to define possible interventions and measure their impact simply are not part of the database.

Technically, we can gather the data. Experience with a program developed by the Harvard University School of Public Health⁷ and the Medical College of Wisconsin⁸ and now deployed at multiple sites around the country demonstrates that.⁹ Results produced at those sites and others demonstrate the valuable role such data can play in developing certain interventions and prevention strategies.* But, of course, anything less than a national system must inherently miss the interstate flow of weapons and the impact of secondary market sales. And anything less than a comprehensive data design will leave room for continuing academic arguments about missing information.

The analogy commonly used to illustrate the technical feasibility and value of such a system is FARS, the Fatal Analysis Reporting System used by the National Highway Traffic Safety Administration (NHTSA). FARS gathers over 100 pieces of data on each fatal crash. Those data have been used to evaluate the characteristics and, in some cases, the causes of each incident. Data gathered by FARS have been used to support changes in the design of both highways and automobiles, as well as policies that set lower blood alcohol levels, mandated the use of child restraint systems and the like.

Even in this area, science does not dictate policy. While data demonstrate that setting speed limits at 55 mph saved lives, Congress was more than willing to raise speed levels to achieve other goals—even though they knew that decisions would lead directly to the death of more American citizens.† Similarly, car manufacturers can and often have argued that while a given design feature might save lives, it is, for example, too expensive or inconsistent with other goals, like fuel economy, or it is likely to be opposed by consumers. Those are legitimate arguments: while they do not deny the lifesaving value of a design feature, they seek to broaden the area of debate to include other considerations. Policy, in this case, will be based on the relative values placed on the factors to be considered and the relative strength of each factor (how many lives, how much money, how much of a reduction in fuel economy). The final decision will depend on the data and the political philosophy of the decision maker. That means that radically different regulatory decisions can be perfectly reasonable and fully justifiable.

*Research evaluating various intervention strategies is ongoing. Summaries of current knowledge are inevitably subject to claims of bias. Perhaps the most objective studies are available from the government, particularly the Office of Juvenile Justice and Delinquency Prevention. Research has debunked some once-popular initiatives, such as gun buyback programs, that seem to have very little (if any) impact on gun crimes. But other programs have not yet been carefully studied. For example, the National Rifle Association's inherently worthwhile education program aimed at children, Eddie Eagle, has not been subject to an independent evaluation; similar programs, however, seem to have very little effect in terms of altering children's behavior. Despite programs designed to teach them not to touch guns, to call an adult, and to walk away, children exposed to guns after such training inevitably do pick the weapons up and play with them.

†I do not mean to disparage the decision. There were legitimate arguments in favor of raising the limits; these arguments were rooted both in the concept of federalism and in the geographic characteristics of western states. Still, it would have been more honest if these interests were more overtly weighed against the lives that would be lost when limits were increased. Instead, the debate skirted that issue or retreated to expressing doubt about the validity of the data.

Still, a system like FARS does give policymakers guidance. It also suggests a second area of interest: designing “safer” firearms. To return to the FARS analogy, conversations with representatives from the auto industry and the National Highway Traffic Safety Administration indicate that they each recognized the value of the system and cooperated in developing and testing its design. While the industry has at times disagreed with the conclusions drawn from the data and opposed regulations based on it, its overall interest in the safety of its product has produced a less adversarial relationship than the one between the firearms industry and various “gun rights” and “gun safety” groups.

While the inherent purpose of firearms is to place a projectile on a particular path through the space-time continuum with the goal of altering the nature of its intended target, some steps can be taken to improve the safety of what is designed to be a deadly mechanism. If a cooperative relationship had been developed, for example, some of the changes in gun design identified by Frattaroli et al.¹⁰ in their article in this issue would be made voluntarily—as were some of the changes in automobile design.

If industry-initiated change is not forthcoming, then laws that now exempt firearms from safety regulation on the federal level and in many states ought to be changed so that safety considerations can be included in design decisions. No one doubts the legal authority of government to regulate firearms in this context. And, past experience has demonstrated that even if present technology cannot achieve our goals, mandated deadlines are a great spur to creativity. The Corporate Average Fuel Economy standards imposed on the auto industry were “impossible” to realize—until the industry had no choice. Similar complaints about the physical and economic impossibility of complying with the requirements of the Americans With Disabilities Act disappeared as changes to improve access were phased in. If the technology to improve gun safety is not currently available, it soon could be.

This seemingly innocuous call for safer designs leads us into the deeper thickets of the policy/politics conundrum. The motivation behind the opposition of the industry and interest groups to “safe design” is difficult to determine, but it is probably rooted, at least in part, on the “slippery slope” argument we have all found persuasive when it agrees with our own political/philosophic inclinations.

The slippery slope identifies a situation in which a particular act *qua* act is relatively benign, but the precedent it sets and the implications it contains are seen as dangerous to larger interests and basic principles. So, for example, while few would dispute the desirability of scientific research into deadly diseases, many would object if such research required the use of embryonic brain stems for fear that it would lead to a legitimization of abortion. Again, while few would object to prenatal care, many would object if such care was provided under the rubric of providing health care to “unborn persons” for fear that it would make access to abortion more difficult. Fear of the “ultimate” policy leads to unyielding opposition to limited policies—even though they may be reasonable in and of themselves—since they might generate support for the broader conclusions some oppose. Once the precedent is established, they might argue, it could lead down the slippery slope to objectionable behavior.

Perhaps something similar motivates those who oppose what the majority of Americans, in poll after poll, see as “reasonable gun safety measures.”* It is, one

*Public opinion polls have historically demonstrated strong support for gun safety and specific gun control measures, even among gun owners. A Harris survey conducted in March 2001 and released on April 25, 2001, found that 62% of respondents favored “stricter gun control”; when the question was

suspects, in small part an objection to the specific measures, but it is, one hopes, in larger part an objection to the erosion of what they see as their “rights.” While science may support a specific change, policy concerns may force opposition because of its long-term implications.

This suggests a political, rhetorical, and perhaps even intellectual need to suspend calls for action that quickly slide down the slope and end up in the valley below. While there may be a justification for seeking to prohibit the sale of all handguns, such an agenda is a nonstarter in the real world and serves to taint more moderate calls for restraint with the all too easily applied epithet of “antigunner.”¹¹

We need strategies to activate movement on specific policy proposals. Regulating firearms for safety is one such area. While unintentional death and injury is not the most serious problem we face in a quantitative sense, it is easy to understand, and it is hard to oppose reasonable efforts to keep guns away from children. In addition, in a synergistic way, efforts to moderate unintentional injuries can have an impact on other forms of gun violence. Personalized guns, an obvious way to reduce unintentional misuse of weapons, especially by children, would also reduce the utility of stolen guns and might help dry up the secondary market or at least make it more expensive to modify weapons bought there.

Efforts to restrict the secondary market through limiting purchases to “one gun a month” or to prevent sales to “prohibited purchasers” by expanding Brady background checks to gun shows as well as gun shops or restricting multiple purchases seem eminently reasonable. Since such policies are in place in some states and have survived legal challenges, they seem to avoid what some see as egregious Second Amendment problems. They constitute the core program of most gun safety groups, and they are consistent with the prevention approach that characterizes most effective public health interventions.

But, efforts to activate change cannot be confined to either the streets or the halls of legislative bodies. The medical community has a role to play. We recognize the political dimensions of policy decisions, but physicians believe that medical decisions ought to be grounded in evidence and guided by data. In the case of firearm injuries, however, that is unfortunately another self-evident proposition that is honored more in theory than practice. As Romero and Wintemute¹² indicate in their contribution to this issue, suicide is by far the most common form of firearm violence. We also know that unintentional injuries, while relatively few in number, constitute perhaps the most tragic category of mortality: the image of young children shooting themselves unintentionally is only slightly less horrific than the image of a young child unintentionally shooting a brother, sister, or playmate. But it happens—every day. We know there are risks associated with keeping guns in homes where young children or depressed people live.

Most of our professional societies have policies recommending that physicians ask about the presence of guns in the home and provide counsel about the risks of such a decision and suggestions about ways to reduce that risk. The Surgeon General has made such action an objective of his suicide prevention strategy and gone so far as to indicate that “health care providers are also in a unique position to

rephrased to focus on “strict laws relating to the control of *handguns*” [emphasis added], the level of support increased to 69%, while support for “less strict” laws on those questions was 22% and 18%, respectively. Support levels generally increase when specific measures are identified. For example, a Mellman/Zogby poll conducted in February 2001 and released on May 15, 2001, for Americans for Gun Safety found that closing the gun show loophole was “strongly favored” by 75% of respondents, “favored” by 11%, “opposed” by 4%, and “strongly opposed” by 6%.

educate about firearm storage and access.”¹³ Yet, scattered research reports routinely announce that far fewer than even a third of physicians ask such questions and provide such counsel; interestingly enough, perhaps because they understand the dangers they pose, those most likely to do so own guns themselves.^{14,15} Of course, there are reasons for such behavior: Physicians are overworked, time with patients is precious, the risk may not seem real, and they may fear patient “backlash.” Still, there is a clear need for such counseling. The Surgeon General indicates that, in the month prior to committing suicide, 75% of elderly persons had visited a physician.¹⁶ And, there is a desire for such counseling: A recent study indicates that over 60% of urban teenagers, primarily from minority communities, would talk to a doctor about guns if the subject came up during an office visit.¹⁷

Physicians ask about spousal abuse, child abuse, and depression, but if those questions are not linked to efforts to remove the means so often used to cause harm, they are just pieces of information rather than part of a comprehensive treatment plan. Clearly, there are opportunities—indeed, obligations—for the medical community to contribute to injury reduction in this area by talking with patients about the dangers associated with keeping firearms in the home and ways to reduce those risks.*

The medical community has conducted a number of scientific studies in the area of firearms and injury. Such studies are necessary and appropriate. But, so is action based on those studies. Individual physicians can take such action in their own practice, with their own patients. They can urge their professional societies to support such behavior and seek to persuade their colleagues to engage in it. While legislative action is probably necessary and certainly appropriate, individual action is more immediate and can have a significant impact.

America is a vast and complex country. The hunters in rural areas may see calls for “gun control” as a threat to their heritage and lifestyle. The urban dweller may see “gun rights” as contributing to the fear that every nighttime stroll down dark streets can cause.

When treated in a political framework, guns become a symbolic issue. Increasingly, the conventional wisdom tends to suggest that candidates who favor stronger controls should ignore the issue during campaigns or find a new way to talk about it lest they offend conservative voters and energize their opposition. Even without that strategy of silence, proposals that enjoy broad public support have been stalled at the federal level. While states have had more success in reforming gun sale poli-

*Doctors Against Handgun Injury has been criticized for advocating that physicians talk to their patients about the risks of storing guns in the home and ways to minimize those risks. Surprisingly, a common complaint is that such behavior constitutes a “boundary violation.” The term, which apparently originated in psychiatric practice to describe inappropriate responses to transference (usually sexual exploitation of patients), has now apparently come to refer to any abuse of the power relationship that favors physicians in their dealings with patients. But asking questions about health-related behavior (smoking, excessive drinking) and providing appropriate recommendations to allow a patient to cease or moderate the behavior has not previously been questioned. Keep in mind that providing patients with information about risks and ways to minimize risk in relationship to firearms in the home is based on the evidence. It is endorsed by the Surgeon General and several medical societies; see, for example, the *Physician Firearm Safety Guide* (Chicago: American Medical Association, 1998) and the policy statements of groups like the American Academy of Pediatrics and the American College of Physicians—American Society of Internal Medicine. It is taught in residency programs, and it is a subject regularly dealt with in continuing medical education courses.

cies, the interstate nature of both criminal and common commerce makes such victories less than complete.

For these reasons, as well as because it is appropriate, it is time to add a new perspective to the debate: to talk about public health and prevention in addition to the police and politics and the law. It is also time for the medical community to take action designed to move the debate in the public health direction, to give their patients the information they need, to give policymakers the data they need to make informed decisions. Perhaps science and politics have the time to explore these issues further. Physicians, though, can do more than join the debate. They can act. In 1998, there were over 30,000 deaths and perhaps 90,000 injuries related to firearms in this country. We cannot afford to allow this largely preventable carnage to continue.

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